DOCUMENT RESUME

ED 118 558 SP 009 847

AUTHOR Pyfer, Howard R.; And Others
TITLE Cardiac Arrest During Medically-Supervised Exercise Training: A Report of Fifteen Successful Defibrillations.
PUB DATE May 75
NOTE 3p.; Paper presented at the American College of Sports Medicine Meeting (New Orleans, Louisiana, May 1975)

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage
DESCRIPTORS *Cardiovascular System; *Exercise (Physiology); Heart Rate; Intervention; *Males; Medical Assistants; Medical Treatment; *Older Adults; Physical Fitness; *Risk

ABSTRACT

The Cardio-Pulmonary Research Institute conducted an exercise program for men with a history of coronary heart disease. Over 7 years, there were 15 cases of cardiac arrest during exercise (one for every 6,000 man-hours of exercise). Trained medical personnel were present in all cases, and all were resuscitated by electrical defibrillation with no permanent damage. Coronary heart disease patients are at risk of cardiac arrest during exercise, and there seems to be no way of predicting by age, type of exercise, or seeming tolerance to exercise whether or not cardiac arrest will occur. Nor are months of regular exercise a safeguard against an attack. However, exercise, even vigorous exercise, is safe if there are medical personnel present, and the physiological and psychological benefits of exercise in the rehabilitation process for coronary heart disease patients are important. (CD)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED118558

CAPRI

CARDIO PULMONARY RESEARCH INSTITUTE

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

HONORARY TRUSTEES

ROBERT A. BRUCE, M.D.
BELVIN L. DOANE
Co-founder
HENRY FONDA
SAMUEL M. FOX III, M.D.
ALLEN A. FUNT
ROBERT KING, M.D.

BOARD OF TRUSTEES

RICHARD E. BANGERT
Treasurer
ALFRED J. BARRAN
GEORGE H. BIDDLE
WALLACE R. BUNN
C. C. (JOE) COIE
CHARLES M. DANIEL
JACK M. GOODFELLOW
FREDERICK P. HOLBROOK
WILLIAM T. JACOBSON
HAROLD C. KEAN
RONALD C. KISSLING
WILLIAM F. MEAD, M.D.
J. THOMAS PAYNE, M.D.
FRANK A. PRITCHARD
HOWARD R. PYFER, M.D.
Co-founder
BROOKS G. RAGEN
W. HUNTER SIMPSON
President
HUGH A. SMITH
Vice President
SAMUEL N. STROUM
MILTON TRAFTON
Vice President
TEDROWE WATKINS
Secretary
T. EVANS WYCKOFF

HOWARD R. PYFER, M.D.
Director of
Medical Services
RICHARD FREDERICK
Managing Director

CARDIAC ARREST DURING MEDICALLY-SUPERVISED EXERCISE TRAINING

A REPORT OF FIFTEEN SUCCESSFUL DEFIBRILLATIONS

Howard R. Pyfer, M.D., William F. Mead, M.D. and Richard C. Frederick, M.S.
Cardio-Pulmonary Research Institute (CAPRI), Seattle, Washington

During the seven years between May, 1968 and May, 1975, cardiac arrest occurred 15 times in 3 cities where medically-supervised CAPRI cardiac exercise training programs were being conducted. Cardiac arrest is defined, here, as the cessation of adequate circulation of blood to sustain life.

CAPRI exercise training sessions meet three times weekly for 45 minutes of walking, jogging and calisthenics. Applicants with coronary heart disease or obstructive lung disease are accepted into the program only by physician referral. Trained medical personnel and emergency equipment are present at all exercise and testing sessions.

Arrests occurred approximately every 6,000 man-exercise hours of medically-supervised exercise training. Two happened within 60 seconds of each other. Fourteen occurred within the first 20 minutes of class; 2 while jogging, 5 while walking after jogging, 4 while standing after jogging, 1 while walking prior to jogging and 2 during calisthenics. One occurred 37 minutes after the beginning of class. All 15 were successfully resuscitated by electrical defibrillation without residual cardiac or brain damage and all were hospitalized for observation. Twelve (80%) returned to exercise training after release from the hospital. Eleven were between 50 and 60 years of age, 1 under 40 and 3 over 60 years. Fourteen had been enrolled in the program more than 6 months and 1 more than 48 months. Twelve (80%) had a history of heart attack, and 3 (20%) had angina pectoris as a primary reason for entering the program. Subsequent coronary angiography was performed on 11 (73%) and coronary artery by-pass surgery on 8 (53%). The exercise tolerance test prior to the cardiac arrest showed that 11 (73%) had electrocardiograph evidence of ischemic heart disease, 10 (67%) had arrhythmia, and 5 (33%) experienced angina pectoris. Two of the 15 died more than 6 months after the initial episode from another cardiac arrest, 1 at home and the other during coronary angiography. The remaining 13 are living and active.

COMMENTS: Coronary heart disease patients are at risk of cardiac arrest during exercise. The number of months that regular exercise training has been performed does not guarantee protection from cardiac arrest.

United Way Member Agency

Portland Program
6651 S.W. CAPITOL HIGHWAY
PORTLAND, OR 97219
(503) 244-0111

Home Office
914 EAST JEFFERSON · SEATTLE, WASHINGTON 98122 · (206) 323-7550
Non-Profit Organization

Yakima Program
5 NORTH NACHES
YAKIMA, WA 98101
(509) 248-1202

SP004 847

Age, exercise tolerance test findings, type or duration of exercise training do not offer any apparent single common denominator for predicting the likelihood of cardiac arrest.

Exercise training therapy for coronary heart disease patients provides positive physiological and psychological changes that contribute to the over-all rehabilitation process. Vigorous exercise, such as jogging and calisthenics, has been shown to be relatively safe if done in a medically-supervised environment.